

REMARKS

I. Introduction

In response to the December 22, 2010 Office Action, Applicants have amended claims 35, 41, 44, 47, 50 and 53 to correct for antecedent basis. In addition, new claims 62-63 have been added. Support for new claims 62-63 may be found, for example, on page 26, lines 8-12 and on page 29, lines 10-20. No new matter has been added.

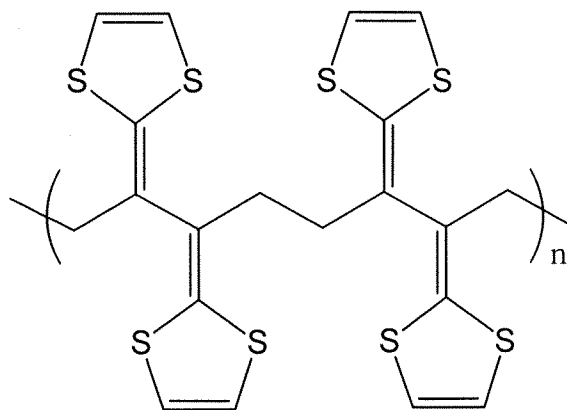
For the reasons set forth below, Applicants respectfully submit that all pending claims are patentable over the cited prior art.

II. The Rejection of Claim 59 Under 35 U.S.C. § 112

Claim 59 stands rejected under 35 U.S.C. § 112, first paragraph, as being both non-enabling and failing to comply with the written description requirement. The Office Action asserts that, while being enabling for $n = 4-10$, the specification is not enabling for “ n is not less than 1”, in reference to the compound of general formula (9). Applicants respectfully disagree.

As was set forth in the Supplemental Amendment of March 22, 2010, support for claim 59 may be found, for example, on page 13, lines 18-21 and page 14, lines 4-18 of the specification. For the Examiner’s convenience, Applicants repeat the portion of the specification beginning on page 13, line 18 and ending on page 14, line 1, which recites:

“As for the polymer compound preferably used is a compound obtained by polymerizing the compounds represented by the general formula (1). Such a compound may be exemplified by one represented by the general formula (9):



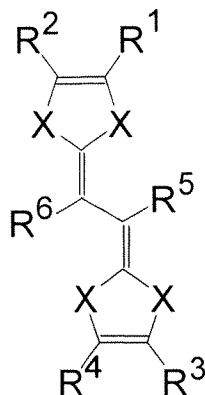
where n is an integer not less than 1.”

As is clear from the recited passage, the specification provides adequate support for claim 59. Accordingly, Applicants request that the § 112 rejection of claim 59 be withdrawn.

III. Claims 22, 25, 28, 32, 35, 38, 41, 44, 50 and 53 Are Allowable

Claims 22, 25, 28, 32, 35, 38, 41, 44, 50 and 53 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Zhang et al. (USP No. 6,110,619) in view of Carlier et al. (Publication Electrochimica Acta). Applicants respectfully traverse this rejection for at least the following reasons.

With regard to the present disclosure, claim 32 recites, in-part, a secondary battery, comprising a positive electrode, a negative electrode and an electrolyte, wherein at least one of said positive electrode and said negative electrode includes an electrode active material comprising a **polymer** compound having a structure represented by the general formula (1a):



It was admitted in the Office Action that Zhang fails to teach the specific compound of formula 1(a). It is alleged that Carlier teaches a compound of general formula (1a). Moreover, the Examiner asserts that Carlier discloses that “R5 and R6 can be a polymer (FIG. 4). Applicants respectfully disagree.

FIG. 4 of Carlier does not disclose a polymer as defined in the present specification. Applicants point out that the definition of “polymer compound” is explicitly set forth in the present specification on page 13, lines 9-11, which recites “[i]n the present invention, the polymer compound is defined as a compound, with a molecular weight not less than 10,000, prepared by polymerization of monomer compounds.”

The caption beneath FIG. 4 of Carlier recites “Fig. 4. Optimal geometries calculated at the B3LYP/6-31G* level, of the (a) neutral; (b) radical cation; (c) dication of 4d (R = C₆H₅).” Nowhere in the caption is there any mention or suggestion of a polymer compound. Further, the compounds disclosed in Fig. 4 are all non-polymeric compounds. In fact, Carlier is silent with regard to any polymeric compounds at all, much less compounds having the general formula (1a). As such, Zhang and Carlier fail to teach or suggest all of the limitations of claim 32.

In order to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. At a minimum, as Zhang and Carlier fail to teach or suggest a secondary battery, comprising a positive electrode, a negative electrode and an electrolyte, wherein at least one of said positive electrode and said negative electrode includes an electrode active material comprising a polymer compound having a structure represented by the general formula (1a), it is submitted that Zhang and Carlier, alone or in combination, do not render claim 32 obvious. Accordingly, it is respectfully requested that the § 103 rejection of claim 32 be withdrawn.

With regard to new claims 62 and 63, Applicants also point out that according to the definition of polymer compound set forth in the specification, the compounds of general formula (9) and (10) are not polymer compounds, but rather, just compounds. On page 26 where there is support for new claim 62, it recites a *compound* (not a polymer compound) represented by the general formula (9), where $n = 4$ to 10. Similarly, on page 27 of the present specification which supports new claim 63, it states a compound represented by the general formula (10) where $n = 4$ to 10. As such, the compounds disclosed in new claims 62 and 63 are not polymer compounds as defined in the specification.

IV. All Dependent Claims Are Allowable Because The Independent Claim From Which They Depend Is Allowable

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 32 is patentable for the reasons

set forth above, it is respectfully submitted that all pending dependent claims are also in condition for allowance.

V. Conclusion

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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